

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/051457

International filing date (day/month/year)
31.03.2005

Priority date (day/month/year)
01.04.2004

International Patent Classification (IPC) or both national classification and IPC
G01B7/00, G01B21/04, G08C23/04, H04B10/22

Applicant
MARPOSS SOCIETA PER AZIONI

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Beyfuß, M

Telephone No. +49 89 2399-2725



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/051457

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/051457

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	1-16
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)

International application No.

PCT/EP2005/051457

Reference is made to the following documents:

D1: WO 99/41856 A
D2: EP-A-1 130 557
D3: US-A-4 578 874
D4: US-B1-6 526 670
D5: US-A-5 778 550

1. Technical Field: Coordinate measuring with wireless signal transmission
2. Prior Art

D1-D5 relate to coordinate measuring machines (CMMs) operating with optical signal transmission between the probe and a base station. D5 (cited by the applicant) describes the general background of the respective pulse signal transmission. D1-D4 address the problem of unwanted noise due to background light sources. D4 (col. 5, l. 38-45) mentions that problem in context with unwanted power and proposes an automatic sensitivity control. D3 (col. 4, l. 27-35) proposes to simply use a frequency high enough to be distinguishable from background light. D2 (see eg. [0004], [0029]) tries to solve the problem by a pulse extender. Finally, D1 (which can be seen as closest prior art) uses a amplifier with automatic gain control and high pass characteristic. The output of the amplifier is fed into a threshold detector. The threshold of the detector is then set in accordance with the amplitude of the received signals.

3. Novelty (Article 33(2) PCT)

The subject matter of claims 1 and 9 differs from the system and method of D1 at least in that the attribute of the input signals (the description specifies eg. the spectral or temporal behaviour of the background light) which is used to vary the difference in amplitude between the input signals and the reference signals differs from that of the signals transmitted by the transmission unit (remark: the output AC amplitude of D1 seems to have only "attributes" linked to the transmitted signal). **The subject matter**

of independent claims 1 and 9 is thus new.

4. Inventive Step (Article 33 (3) PCT)

The particular way of signal processing seems to enable a more reliable cancelling of unwanted background noise. In the available prior art there was no real indication found to modify the system and method of D1 towards the invention as defined in claims 1 and 9. **Consequently, the subject matter of independent claims 1 and 9 is also based on an inventive activity.**

5. Dependent Claims

The claims 2-8 and 10-16 only add particular features to the subject matter of independent claims 1 and 9, respectively. **The subject matter of dependent claims 2-8 and 10-16 is thus also new and based on an inventive step.**

6. Industrial Applicability (Article 33(4) PCT)

The subject matter of the claims is industrially applicable, eg. for checking dimensions in the production of workpieces.

Re item VII:

1. Although independent claims 1 and 9 are drafted in the two-part form (Rule 6.3(b) PCT), these claims are not correctly delimited against D1 (see items V/3 and V/4). If this would require complicated wordings, a one-part form seems exceptionally acceptable. Moreover, claim 9 seems to specify the step of "varying the difference in amplitude..." twice.
2. The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT. The passage "Disclosure of the invention" (p. 5-6) should correlate exactly to the independent claims 1 and 9.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2005/051457

3. The document D1 is not cited in the description (Rule 5.1(a)(ii) PCT).